



# ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

## SUBSONIC ENGINES

ENGINE IDENTIFICATION: Trent 895  
 UNIQUE ID NUMBER: 5RR040  
 COMBUSTOR:  
 ENGINE TYPE: TF

BYPASS RATIO: 5.7  
 PRESSURE RATIO ( $\pi_{00}$ ): 41.5  
 RATED THRUST ( $F_{00}$ ) (kN): 413.1

### REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO <sub>x</sub>	SMOKE NUMBER
D <sub>p</sub> /F <sub>00</sub> (g/kN) or SN	1.7	23.1	78.6	6.9
AS % OF ORIGINAL LIMIT	8.6	19.6	63.9	42.8
AS % OF CAEP/2 LIMIT (NO <sub>x</sub> )			79.9	
AS % OF CAEP/4 LIMIT (NO <sub>x</sub> )			87.3	
AS % OF CAEP/6 LIMIT (NO <sub>x</sub> )			95.9	
AS % OF CAEP/8 LIMIT (NO <sub>x</sub> )			107.4	

### DATA STATUS

- PRE-REGULATION  
 x CERTIFICATION  
 - REVISED (SEE REMARKS)

### TEST ENGINE STATUS

- NEWLY MANUFACTURED ENGINES  
 x DEDICATED ENGINES TO PRODUCTION STANDARD  
 - OTHER (SEE REMARKS)

### EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE  
 (ANNEX 16 VOLUME II)

### CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)  
 x OUT OF PRODUCTION (DATE: 2009 )  
 - OUT OF SERVICE (DATE: - )

### MEASURED DATA

MODE	POWER SETTING (%F <sub>00</sub> )	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO <sub>x</sub>	
TAKE-OFF	100	0.7	4.030	0.02	0.27	47.79	4.0
CLIMB OUT	85	2.2	3.190	0.00	0.19	34.29	4.9
APPROACH	30	4.0	1.050	0.00	0.54	11.39	2.6
IDLE	7	26.0	0.330	0.89	14.71	5.11	0.5
LTO TOTAL FUEL (kg) or EMISSIONS (g)			1357	462	7834	28029	-
NUMBER OF ENGINES				1	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE D <sub>p</sub> /F <sub>00</sub> (g/kN) or AVERAGE SN (MAX)				1.1	18.8	67.8	5.3
SIGMA (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)							
RANGE (D <sub>p</sub> /F <sub>00</sub> in g/kN, or SN)				0.95-1.24	17.71-19.67	65.76-69.5	4.7-6

### ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS  
 STAGE BLEED 0 (% CORE FLOW) AT - POWER SETTINGS

### ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	100.2
TEMPERATURE (K)	287
ABS HUMIDITY (kg/kg)	0.0053-0.0089

### FUEL

SPEC	AVTUR
H/C	1.95
AROM (%)	16

MANUFACTURER: Rolls-Royce plc  
 TEST ORGANIZATION: Rolls-Royce plc  
 TEST LOCATION: SINFIN-Derby  
 TEST DATES: 01/09/1994

### NO<sub>x</sub> REGULATION PARAGRAPH

	2.3.2 c) (CAEP/4)
x	2.3.2 d) (CAEP/6)
	2.3.2 e) (CAEP/8)

### REMARKS

1. Data from certification report DNS59304

Compliance with Fuel Venting requirements:

- ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)